

SITE PREPARATION:

The Key to a Successful Crop



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Some of the most important money spent during the rotation of a tree crop is in site preparation; whether it is spent during the last several years of the previous rotation on fire to make sure a clean harvest can be accomplished, or whether it is spent on equipment or chemicals to clean up the site post-harvest. Despite new high intensity technologies in forest stand management, site preparation is the key to having a productive stand of trees.

If the previous stand has been well managed, the site preparation may be as simple as a fire to remove litter and slash to prepare the site for the next stand. At the other end of the spectrum may be a stand that was harvested several years previously and needs to have the standing trees physically removed before the seedlings can be successfully planted.

How do you accomplish good site preparation? If you have not yet harvested your timber, now is the time to begin planning for site preparation and regeneration of the next stand. Good, clean stand management over the last six to nine years of a rotation will allow you to use a lower cost and more successful site preparation alternative for the next stand. However, whether you use fire or chemicals to suppress the under-story vegetation, a clean site, post-harvest, will benefit you, the landowner.

There are two classes of site preparation: mechanical and chemical. Mechanical site preparation uses heavy equipment to physically remove the material that is impeding the planting and growth of the chosen crop. Just as a farmer plows and discs his fields, mechanical site preparation gets the area ready for planting.

Chemical site preparation suppresses the growth of competing vegetation, and (usually) uses fire to remove vegetative residues to prepare for planting. It is similar to no-till farming, as special tools are needed to plant in the chemically prepared area if machine planting is used. Most often hand planting is used in conjunction with chemical site preparation.

Mechanical Site Preparation

The most often used type of mechanical site preparation is shear and pile. In this method a tractor is used to cut down the residual stand, using a shear blade or K-G blade. The shearing operation is followed by a tractor using a root rake to move the residue into piles or windrows (see photo above). This technique is most useful if a high percentage of the residual stand is stems above 6 inches in diameter. If the land is somewhat sloping, windrows should be placed along the contour to help control erosion which

can result from areas of exposed soil. The piles or windrows may either be burned or left for erosion control and wildlife cover. If this method is used, do not use a regular bulldozer blade for piling as too much soil will be moved into the piles.

This mechanical method has some very positive points associated with it:

The site will be clean enough to use a machine planter, which usually leads to a 10 – 15 percent higher survival versus hand planting.

This method has a larger window of opportunity for use than some other types, which may be limited to late summer/early fall use.

On the negative side:

- This method is the most expensive, at \$150-\$190 per acre.
- This and all mechanical methods do not suppress re-sprouts, and competition may be a problem for the new stand.

Another mechanical site preparation type that has fallen a bit out of favor is drum chopping. This method requires a tractor to pull a drum chopper over the residual stand, chopping it up and reducing it to a burnable mass. It is practical on somewhat steeper land than shearing, because of less exposed soil area. To use this type of site preparation, most of the

residual stand should be less than 3 inches in diameter.

While drum chopping is less expensive than shearing and piling, it needs to be used in conjunction with fire for best results. This method also has a larger window of use than some others, and can be successful if used in the correct situation. Some foresters shy away from this technique due to the fact that it seems to encourage re-sprouting. Drum chopping used with a suppressant chemical can be a good strategy for situations where there are more stems than can be planted through.

The last mechanical type discussed will be wild-land disking. Disking is a good method if the terrain will allow the large areas of exposed soil without eroding. It is very effective at suppressing re-sprouting due to the multiple cutting of the stems. It works best where most of the stand is less than 2 inches in diameter. It is usually the least expensive mechanical method, as well as the most restrictive in its use.

Chemical Site Preparation

The use of chemicals to kill or suppress competition is not new, and it is currently the method of choice for many site preparation situations. There are two main reasons for this:

- Chemicals tend to give a longer competition-free time than mechanical processes.



Photography by John Pirtle

Drum chopping requires a tractor to pull a drum chopper over the residual stand, chopping it up and reducing it to a burnable mass.

- Chemicals are usually somewhat less expensive than mechanical methods.

Chemical site preparation tends to be more effective when used in conjunction with fire. Fire also helps to remove excess vegetation that may hinder planting, whether by machine or hand planting.

For chemical site preparation to be most effective, it must be timed correctly for both the chemical used and for the species being suppressed. To get the best results, it is recommended to use a professional who is familiar with chemical site preparation.

Methods of Application

Aerial application is currently the most common method used to apply chemicals. However, the downside is that in small acreage it is hard to get chemicals applied to, unless several people coordinate to hire an applicator to come in and spray.

Ground application may be an answer for those small acreage situations, but certain chemicals are better applied from the ground, particularly granular types. A good ground application can be just as effective and somewhat less expensive than aerial application, but not always.

The proper chemical to use is a frequently asked question. Often there are several chemicals that may fit an application need. When this is the case, it is best to use the chemical your applicator is most familiar with, instead of the cheapest chemical available. This is because the application will be better, therefore the chemical may be more effective.

How much does chemical site preparation cost? Depending on rates and application methods, costs can run from \$85 to \$125 per acre, sometimes a bit higher or lower.

Chemical site preparation is usually the “most bang for the buck” method to prepare your site for planting, but hiring a professional to help with this phase of stand regeneration is probably the wisest money you will spend. 🌱



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